

Managing the Streamside Forest

Missouri Department of Conservation
PO Box 180
Jefferson City, MO 65102-0180

Benefits of Streamside Forests



Trees growing along streams provide many benefits for humans, wildlife, fish, and the stream itself. Missouri has the second highest rate of erosion in the United States. Although many improvements have been made, further effort is needed to keep our streams and lakes free from the effects of sedimentation and to keep the soil where it is needed for growing crops.

Whether your interest is in reducing erosion and sedimentation, providing wildlife and fish habitat, or the occasional harvest of timber, allowing trees to grow near streams has many benefits.

Erosion Control and Sediment Filters

- ✦ The tree canopy and leaf layer on the ground protect the soil from the direct force of falling rain.
- ✦ The leaf layer acts like a sponge, slowing runoff from adjacent fields and allowing it to soak into the ground. Extra nutrients in runoff water are absorbed by the tree roots. The water is cleaned and cooled as it slowly moves underground to the stream.
- ✦ Tree roots hold the soil in place and help prevent stream bank erosion.
- ✦ Sediment is trapped on the forest floor before entering the stream. Young forests that are dense stands of small trees are especially effective.
- ✦ Pesticides attached to soil particles are trapped with the sediment on the forest floor before entering the stream and water supply.



Wood Products

- ◆ Fertile soils near streams provide a good site for growing high value trees.
- ◆ Missouri is a leading producer of oak lumber used in furniture, flooring, pallets, railroad ties, and other products. Markets are readily available for other important hardwood species such as walnut, maple, ash, sycamore, hickory, and cottonwood.
- ◆ Stream benefits are not lost and some are greatly enhanced when trees are harvested from streamside forests. Careful choices can be made to produce trees that provide stream benefits plus income for the landowner.

Wildlife Habitat

- ◆ Streamside forests provide a wide variety of plant, shrub, and tree species not found in the uplands.
- ◆ Streamside forests provide travel lanes, escape and nesting cover.
- ◆ Streamside forests produce hard mast from oak, hickory, and walnut; soft mast from maple, elm, and hackberry; plus blackberry, sumac, and other forage and browse plants.
- ◆ The multiple layered forest creates a diverse habitat for a variety of birds which may include ducks, herons, hawks, eagles, and many song birds. Over 35 bird species use streamside forests. Eight of these species find their life requirements in streamside forests.
- ◆ Deer, turkeys, squirrels, otter, raccoon, muskrat, salamanders, turtles, and snakes all use streamside forests for life sustaining benefits. Active management of the streamside forest will help maintain this variety of wildlife.





Fish Habitat

- Trees shade the stream during the summer, moderating water temperatures. The shade can make the difference if fish can live in the stream or not.
- Trees harbor insects which are eaten by fish.
- Leaves and other organic materials which fall into the stream provide the basic food elements to start the entire aquatic food chain. Without leaf litter, the stream's ability to support fish is much lower.
- Submerged logs and root wads provide escape cover for fish. Streams without submerged woody cover have about 25 percent less fish than streams with such cover.

- Woody cover in streams provide habitat for insect larvae, crustaceans, and other animals important in the diet of many fish.
- Streambank trees affect water currents that shape the stream bed and affect fish habitat.

What To Do?

Non-Forested Stream Sides

- Establish trees on at least a 100-foot wide strip on each side of the stream. This can be done by planting seedlings, cuttings, or seed, or by allowing natural reforestation to take place. Plant species which are adapted to your soils and conditions. Seek the advice of a professional forester.

Forested Stream Sides

- Avoid the use of heavy equipment such as tractors, skidders, or bulldozers near the stream bank which could remove the ground cover.
- Protect at least a 100-foot wide strip on each side of the stream. Fence to exclude livestock from the stream sides except at a controlled access for water and crossing.
- Harvest the streamside forest with the advice of a forester to maintain or increase stream benefits.
- A healthy streamside forest should have trees with a diversity of species, sizes, and ages, and plenty of dens, snags, food, and cover for wildlife. A forester can help you reach a suitable balance in your forest.

For More Advice . . .

- . . . on managing or establishing a streamside forest, contact your local Missouri Department of Conservation Regional Office.

